



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of: Darrell Rinerson et al.

Attorney Docket No.: UNTYP020

Application No.: 10/634,636

Examiner: Not Assigned

Filed: August 4, 2003

Group: 2818

Title: 2-TERMINAL TRAPPED CHARGE  
MEMORY DEVICE WITH VOLTAGE  
SWITCHABLE MULTI-LEVEL RESISTANCE

Confirmation No.: 7199

**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as first-class mail on January 9, 2004 in an envelope addressed to the Commissioner for Patents, P.O. Box 1450 Alexandria, VA 22313-1450.

Signed: \_\_\_\_\_

*Laura M. Dean*  
Laura M. Dean

**INFORMATION DISCLOSURE STATEMENT  
37 CFR §§1.56 AND 1.97(b)**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

The references listed in the attached PTO Form 1449, copies of which are enclosed\*\*, may be material to examination of the above-identified patent application. Applicants submit these references in compliance with their duty of disclosure pursuant to 37 CFR §§1.56 and 1.97. The Examiner is requested to make these references of official record in this application.

This Information Disclosure Statement is not to be construed as a representation that a search has been made, that additional information material to the examination of this application does not exist, or that these references indeed constitute prior art.

This Information Disclosure Statement is: (i) filed within three (3) months of the filing date of the above-referenced application, (ii) believed to be filed before the mailing date of a first Office Action on the merits, or (iii) believed to be filed before the mailing of a first Office Action after the filing of a Request for Continued Examination under §1.114. Accordingly, it is believed that no fees are due in connection with the filing of this Information Disclosure

\*\* Copies of U.S. Patents and U.S. Published Applications are not enclosed.

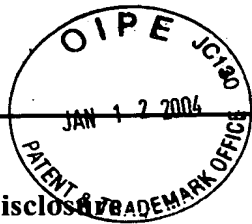
Statement. However, if it is determined that any fees are due, the Commissioner is hereby authorized to charge such fees to Deposit Account 500388 (Order No. UNTYP020).

Respectfully submitted,  
BEYER WEAVER & THOMAS, LLP

A handwritten signature in black ink, appearing to read 'M. Malino', with a long horizontal flourish extending to the right.

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<b>Form 1449 (Modified)</b>  <b>Information Disclosure Statement By Applicant</b>  (Use Several Sheets if Necessary)	Atty Docket No. UNTYP020 Applicant: Rinerson et al. Filing Date August 4, 2003	Application No.: 10/634,636  Group 2818

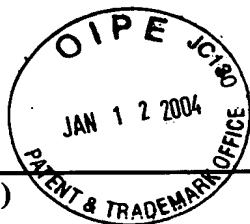
#### U.S. Patent Documents

Examiner Initial	No.	Patent No.	Date	Patentee	Class	Sub-class	Filing Date
	A	6,204,139	2001-03-20	Liu et al.			

#### Other Documents

Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
	B	Basun, S. A. et al., "Photoinduced Phenomena in $Sr_{1-x}CA_xTiO_2$ , $0 \leq x \leq 0.12$ ", Ferroelectrics, Vol. 183, 1996,255-264.
	C	Baiatu,T. et al., "dc Electrical Degradation of Peroskite-Type Titanates: III, A Model of the Mechanism", J. Am. Ceram. Soc., Vol. 73, No. 6, 1990,1663-73.
	D	Beck, A. et al., "Reproducible switching effect in thin oxide films for memory applications", Applied Physics Letters, Vol. 77, No. 1, 3 July 2000,139-141.
	E	Koidl, P. et al., "Photochromism in Ni-doped $SrTiO_3$ ," Physical Review B, Vol. 14, No. 7, 1 October 1976, 2703-2708.
	F	Millis, A. J., "Lattice Effects in Magnetoresistive Manganese Perovskites," Nature, Vol. 392, 12 March 1998, 147-150.
	G	Rossel, C. et al., "Electrical current distribution across a metal-insulator-metal structure during bistable switching," Journal of Applied Physics, Vol. 90, No. 6, 15 September 2001, 2892-2898.
	H	Simmons, J. G., "New Conduction and Reversible Memory Phenomena in thin insulating films,"Proc. Roy. Soc. A., 301, 77-102, 1967.
	I	Sze, S.M., "Physics of Semiconductor Devices," Bell Laboratories Inc., Murray Hill, NJ, © 1981 John Wiley & Sons, Inc., ISBN 0-471-05661-8
Examiner		Date Considered

Examiner: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



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	Applicant: Rinerson et al. Filing Date August 4, 2003	Group 2818

**Other Documents**

Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
	J	Waser, R., et al., " <i>dc Electrical Degradation of Peroskite-Type Titanates:I, Ceramics</i> ", J. Am. Ceram. Soc., Vol. 73, No. 6, 1990,1645-53.
	K	Waser, R., et al., " <i>dc Electrical Degradation of Peroskite-Type Titanates:II, Single Crystals</i> ", J. Am. Ceram. Soc., Vol. 73, No. 6, 1990,1654-62.
	L	Waser, R., et al., " <i>Bulk Conductivity and Defect Chemistry of Acceptor-Doped Strontium Titanate in the Quenched State</i> ", J. Am. Ceram. Soc., Vol. 74, No. 8, 1991,1934-40.
	M	Watanabe, Y. et al., " <i>Current-driven insulator-conductor transition and nonvolatile memory in chromium-doped SrTiO<sub>3</sub> single crystals</i> ", Applied Physics Letters, Vol. 78, No. 23, 4 June 2001, 3738-3740.
	N	Zimmermann, M.V., et al, " <i>X-Ray Resonant Scattering Studies of Orbital and Charge Ordering in Pr<sub>1-x</sub>Ca<sub>x</sub>MnO<sub>3</sub></i> ," Physical Review B., Volume 64, 195133, 1-17.
Examiner		Date Considered

Examiner: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.